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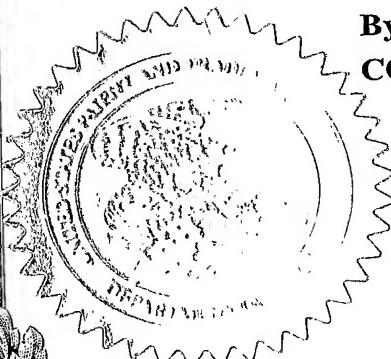
APPLICATION NUMBER: 60/529,718

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P. SWAIN  
Certifying Officer



# PROVISIONAL APPLICATION FOR PATENT COVER SHEET

This is a request for filing a PROVISIONAL APPLICATION FOR PATENT under 37 CFR 1.53(c)

Expr ss Mail Label ET725388846US

## INVENTOR(s)/APPLICANT(s)

Given Name (first and middle if any)	Family Name or Surname	Residence (City and either State or Foreign Country)		
Mark	Ishakov	Tel Aviv, ISRAEL		
TITLE OF THE INVENTION (280 characters max)				
<b>UNIVERSAL MULTIFUNCTIONAL KEYBOARD</b>				
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60529718  
U.S. PTO

## ENCLOSED APPLICATION PARTS (check all that apply)

Specification Number of pages 7 CD(s), Number \_\_\_\_\_

Drawing(s) Number of pages 2 3 Other(specify) Comb. Declaration & Power of Att'y

Application Data Sheet. See 37 CFR 1.76

## METHOD OF PAYMENT OF FILING FEES FOR THIS PROVISIONAL APPLICATION FOR PATENT

- |  |                |
|--|----------------|
| <input checked="" type="checkbox"/> Applicant claims small entity status. See 37 CFR 1.27  | FILING FEE     |
| <input checked="" type="checkbox"/> A check or money order is enclosed to cover the filing fees  | AMOUNT (\$)    |
| <input type="checkbox"/> The Commissioner is hereby authorized to charge filing fees and credit any overpayment to Deposit Account No. <u>501143</u> | <u>\$80.00</u> |
| Payment by credit card. Form PTO-2038 is attached.   |                |

The invention was made by an agency of the United States Government or under a contract with an agency of the United States Government.

- No  
 Yes, the name of the U.S. Government agency and the Government contract number are:

Respectfully submitted,

SIGNATURE 

Date: December 15, 2003

Typed or Printed Name N. Paul Friederichs # 36,515

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Docket No. I650-001-PPA

**CERTIFICATE OF EXPRESS MAILING**

I, the undersigned, hereby certify that the following documents are being deposited with the United States Postal Service as Express Mail, postage prepaid, in an envelope addressed to Commissioner of Patents, PO Box 1450, Alexandria, VA 22313-1450 on this 15th day of December, 2003.

1. Provisional Patent Cover Sheet (1 pg)
  2. Provisional Patent Application (7 pg)
  3. Drawings (Fig. 1-3, 2 pg)
  4. Comb. Declaration & Power of Att'y (3 pg.)
  5. Our Check for \$80.00 Filing Fee
  6. Return Postcard
  7. Certificate of Mailing, Express Mail

Jill A. Friederichs  
Jill A. Friederichs

ET72538846US  
Express Mail No.

December 15, 2003

Date

**Applicant:** Ishakov, Mark  
**For:** UNIVERSAL MULTIFUNCTIONAL KEYBOARD  
**Serial No.:**  
**File No.:** I650-001-PPA  
**Date Filed:**

## A UNIVERSAL MULTIFUNCTIONAL KEYBOARD

### FIELD OF THE INVENTION

5

The present invention is related to data input devices. More particularly, the present invention is related to a multifunctional keyboard for universal use with automatically convertable keypads.

10

### BACKGROUND OF THE INVENTION

Computer keyboards are known in the art. Keyboards are adapted to convert electrical signals generated by key in a key representing a certain letter or number into a sign that appears on a monitor. Keyboards or keypads are a part of every computerized system exists nowadays.

One main disadvantage of keyboards today is that they are adapted for a certain language and there is a problem in converting the keyboard into another language. This consequences in another disadvantage in which buying a computer in one country and transferring it to another one in which the language in not the same is a problem. One solution is by manually patching the second language letters along the main language on the keys of the keyboard. This solution is limited due to the size of the keys and amount of information one can provide on each key. Another solution is the Trafarat which is a plastic or paper transparent cover to the keyboard representing a language that is not represented on the keyboard. This solution is not a universal solution due to the variety of keyboards exists. Trafarats tend also to be erased after some time and is not durable.

There is a need to provide an input device that is an intrinsic multi-lingual keyboard and can be adapted to numerous languages with out any substantial modifications.

## BRIEF DESCRIPTION OF THE FIGURES

In order to better understand the present invention and appreciate its practical applications, the following Figures are attached and referenced herein. Like 5 components are denoted by like reference numerals.

It should be noted that the figures are given as examples and preferred embodiments only and in no way limit the scope of the present invention as defined in the appending Description and Claims.

10 Figure 1a illustrates an upper view of a key in a multi-lingual keyboard in accordance with a preferred embodiment of the present invention.

Figure 1b illustrates an upper view of the key shown in Figure 1a representing the English letter L.

15 Figure 1c illustrates an upper view of the key shown in Figure 1a representing the Greek letter Λ.

20 Figure 2 illustrates a schematic representation of a multi-lingual key in a multi-lingual keyboard in accordance with a preferred embodiment of the present invention linked to a computer.

Figure 3 illustrates a multi-lingual keyboard in accordance with yet another preferred embodiment of the present invention.

25

## DETAILED DESCRIPTION OF THE INVENTION

The present invention provides a new and unique keyboard having keys 30 on which computerized representation of signs is provided instead of the mechanically drawn letters in the regular keyboard and constant adhered, carved or otherwise represented signs as exists in prior art keyboards. The computerized representation is a convertible representation. The new

keyboard of the present invention is a keyboard that is not solely an input device transmitting signals to the processor, but the keyboard is a device that receives signals and orders from the processor it is attached to or from at least one key provided on the keyboard itself. The new multi-lingual keyboard  
 5 is an input device that is adapted to receive electronic signals, too.

Reference is made to Figure 1 illustrating an upper view of a key in a multi-lingual keyboard in accordance with a preferred embodiment of the present invention. Key 10 is in regular key dimensions and character and is provided with a touch surface 12, which is the surface on which keying in is  
 10 performed by the user so as to establish the appropriate electrical signal transferred to the processor. Touch surface 12 is provided with a representation screen 14 on which the sign is represented. Representation screen 14 is preferably a pixilated screen through which different signs can be represented as desired while the signs are adapted to be changed upon  
 15 request.

Representation screen 14 can be a LCD screen such as in hand computers, digital watches etc. Optionally, the letters can be represented by a laser emitted diode (LED) or a laser beam. Any other representation of signs on the keys is covered by the scope of the present invention.

20 Reference is now made to Figures 1b and 1c illustrating an upper view of the key shown in Figure 1a representing the English letter L, and the Greek letter Λ, respectively. Representation screen 14 is lighted with the English letter L 16 upon keying in the appropriate key, however, when another language is set in the keyboard, keying in the same key on the keyboard will  
 25 result in a Greek letter L 18 representation. Similarly, each key in the multi-lingual keyboard of the present invention can represent each sign, letter, number, or other representation in any language.

Changing the language can be established by two ways and in accordance to the type of keyboard used.

30 Reference is now made to Figure 2 illustrating a schematic representation of a multi-lingual key in a multi-lingual keyboard in accordance with a preferred embodiment of the present invention linked to a computer. A multi-lingual key 50 is provided on a multi-lingual keyboard 52. Key 50

represents a plurality of keys, however, from clarity reasons, only one key is drawn. Multi-lingual key 50 is provided with a representation screen 54 on the touch surface of the key. Representation screen 54 is electrically communicating with an actuating system 56 that can be any system adapted

5 to provide the representation shown on the touch surface. As mentioned herein before, representation screen 54 can be made of a LED representation, a laser beam representation, LCD screen, seven segment, or other changeable representation. Actuation system 56 receives input from a processing device 58 such as a computer through which the user defines the

10 desired language. This information is transferred to actuation system 56 that generate the appropriate signs on key 50. Actuation system 56 can be connected to each key in keyboard 52. Alternatively, an incorporated actuation system can receive the signals from processor 58 and transfer the information to each one of the keys provided on keyboard 52.

15 When multi-lingual key 50 is keyed in, it produces an electronic signal 60 that is transferred to processor 58.

Reference is now made to Figure 3 illustrating a multi-lingual keyboard in accordance with yet another preferred embodiment of the present invention. Keyboard 100 is provided with a plurality of multi-lingual keys 102 and a

20 plurality of regular constant keys 104. Multi-lingual keyboard 100 is provided with a built-in processor 106 adapted to generate a protocol through which the desired language is provided by keying in multi-lingual keys 102. Processor 106 is electrically communicating with a control panel 108 through which the user can insert the desired language. Optionally, the processor and the

25 control panel are incorporated together.

The advantage of keyboard 100 is that it is a stand alone keyboard that is not computer dependent. It can be connected to every computer and establish the desired result.

30 Optionally, the screen representation is a colored representation so that each language is also represented by a certain color so as to facilitate the user.

It is also optional to provide a default language. When the user turns on the computer or the keyboard, the language of English will be generated on

the representation screen. The user can change the default to any desired language.

The multi-lingual keyboard of the present invention can be connected to a computer based on an actuating system such as windows, OS2, LINUX, 5 UNIX, SOLARIS, or DOS.

It should be noted that the multi-lingual key can be used in any input device such as keyboards of different computers such as a notepad, a phone, calculating machines, controllers, or any other device as well as a personal computer that serves as a remote control to control functions in a house such 10 as air-condition, TV, stereo etc.

It is important to notice that the multilingual keyboard is a universal keyboard in the sense of the signs represented on the keys. For example, the keyboard may be used for children; hence representing animals, or educational signs; it may be adapted for musical instruments such as an 15 organ; hence represented by musical notes, chemical structures and formulas, computer language as well as machinery. All the signs may be represented on a single keyboard or keypad or represented on a dedicated keyboard. It will be is possible also to purchase a software that will allow certain unique signs to be represented on an existing keyboard.

20 It should be clear that the description of the embodiments and attached Figures set forth in this specification serves only for a better understanding of the invention, without limiting its scope as covered by the following Claims.

It should also be clear that a person skilled in the art, after reading the present specification can make adjustments or amendments to the attached 25 Figures and above described embodiments that would still be covered by the following Claims.

## C L A I M S

1. A multifunctional key adapted to be used in an input device such as a keyboard, the multifunctional key comprising:
  - 5 a touch surface;
  - a representation screen provided on said touch surface wherein said representation screen is adapted to changeably display signs;whereby keying in said multi-lingual key generates an electronic signal
  - 10 corresponding to the sign currently displayed on said representation screen.
2. A multifunctional key as claimed in Claim 1, wherein said representation screen is an LCD screen.
  - 15
3. A multifunctional key as claimed in Claim 1, wherein said representation screen is a LED screen.
  - 20
4. A multifunctional key as claimed in Claim 1, wherein a laser beam represents signs on said representation screen.
  - 25
5. A multifunctional keyboard adapted to be used in an input device comprising a plurality of multifunctional keys wherein each multifunctional key comprises a representation screen provided on a touch surface wherein said representation screen is adapted to changeably display signs whereby keying in one of said plurality of multifunctional keys generates an electronic signal corresponding to the sign currently displayed on said representation screen.
  - 30
6. A multifunctional keyboard as claimed in Claim 5, wherein said representation screen is an LCD screen.
  - 35
7. A multifunctional keyboard as claimed in Claim 5, wherein said representation screen is a LED screen.

8. A multifunctional keyboard as claimed in Claim 5, wherein a laser beam represents signs on said representation screen.
- 5 9. A multifunctional keyboard as claimed in Claim 5, wherein said signs are selected by a user.
- 10 10. A multifunctional keyboard as claimed in Claim 5, wherein said multifunctional keyboard is electronically connected to a processor adapted to change the display on said representation screen in accordance of the language selected by a user.
- 15 11. A multifunctional keyboard as claimed in Claim 5, wherein said processor is provided on a computer to which said multifunctional keyboard is electronically connected.
- 20 12. A multifunctional keyboard as claimed in Claim 5, wherein a control panel is provided on said multifunctional keyboard and wherein a user may control the signs provided on said representation screen.
- 25 13. A multifunctional keyboard as claimed in Claim 5, wherein said multifunctional keyboard acts as an input device to devices selected from a group comprising a computer, a mobile computer, hand computer, telephone devices, controllers, a remote control.
- 30 14. A multifunctional keyboard as claimed in Claim 5, wherein said multilingual keyboard is connected to a computer based on an actuating system such as windows, OS2, LINUX, UNIX, SOLARIS, or DOS.
15. A multifunctional keyboard as claimed in Claim 5, wherein said signs are selected from a group such as fonts, computer language signs, chemical structures, amino acids, DNA codes, pictures, music notes, or car parts.

COMBINED DECLARATION AND  
POWER OF ATTORNEY

Attorney Docket No.

IN ORIGINAL, NATIONAL STAGE OF PCT,  
SUPPLEMENTAL, DIVISIONAL, CONTINUATION

SPECIFICATION AND INVENTORSHIP IDENTIFICATION

As a below named inventor, I declare that:

My residence, post office address and citizenship are as stated below next to my name.

I believe I am the original, first and sole or joint inventor of the subject matter which is claimed, and for which a patent is sought, on the invention entitled **A Universal Multifunctional Keyboard** of which,

X is attached hereto/filed herewith.

— is filed on \_\_\_\_\_ as Appln. Serial No. \_\_\_\_\_

— and was amended on (date application was amended.)

— was described and claimed in PCT International Application No. \_\_\_\_\_ filed on (date of filing) and as amended under PCT Article 19 on (date amended).

ACKNOWLEDGMENT OF REVIEW OF PAPERS AND DUTY OF CANDOR

I have reviewed and understand the contents of the above identified specification, including the claims, as amended by any amendment referred to above. I acknowledge the duty to disclose information which is known to me to be material to the patentability of this application in accordance with Title 37, Code of Federal Regulations, § 1.56.

**PRIORITY CLAIM (35 USC § 119)**

I claim foreign priority benefits under Title 35, United States Code, § 119 of any foreign application(s) for patent or inventor's certificate listed below and have also identified below any foreign application for patent or inventor's certificate having a filing date before that of the application on which priority is claimed:

**Prior Foreign Application(s)**

Number	Country	Date/Month/Year Filed	Priority Claimed
_____	_____	_____	Yes <input type="checkbox"/> No <input type="checkbox"/>
_____	_____	_____	Yes <input type="checkbox"/> No <input type="checkbox"/>

**PRIORITY CLAIM (35 USC § 120)**

I claim the benefit under Title 35, United States Code, § 120 of any United States application(s) listed below. Insofar as the subject matter of each of the claims of this application is not disclosed in the prior United States application in the manner provided by the first paragraph of Title 35 United States Code § 112, I acknowledge the duty to disclose to the Patent Office all information known to me to be material to patentability as defined in Title 37 Code of Federal Regulations § 1.56 which became available between the filing date of the prior application and the national or PCT international filing date of this application:

Appln. Ser. No.	U.S. Serial No.	Filing Date	Status
_____	_____	_____	_____
_____	_____	_____	_____

**DECLARATION**

I declare that all statement made herein that are of my own knowledge are true and that all statements that are made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

**POWER OF ATTORNEY**

I appoint the following attorneys and agents to prosecute the patent application identified above and to transact all business in the Patent and Trademark Office connected therewith, including full power of association, substitution and revocation:

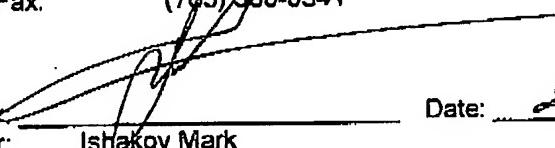
N. Paul Friederichs III      Reg. No. 36,515

I ratify all prior actions taken by Angenehm Law Firm, Ltd. or the attorneys and agents mentioned above in connection with the prosecution of the above-mentioned patent application.

**DESIGNATION OF CORRESPONDENCE ADDRESS**

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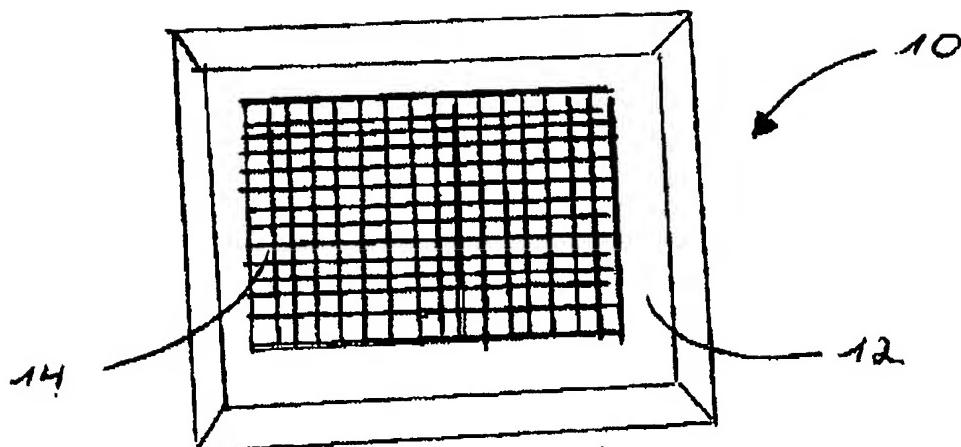


FIG 1a

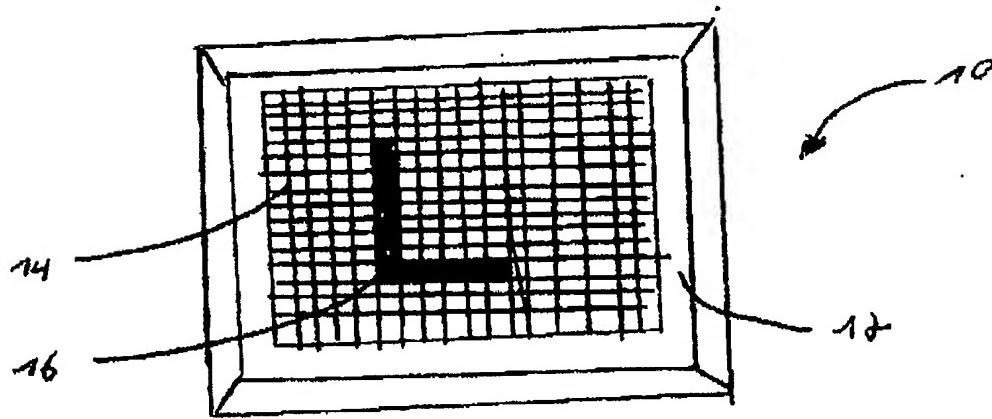


FIG 1b

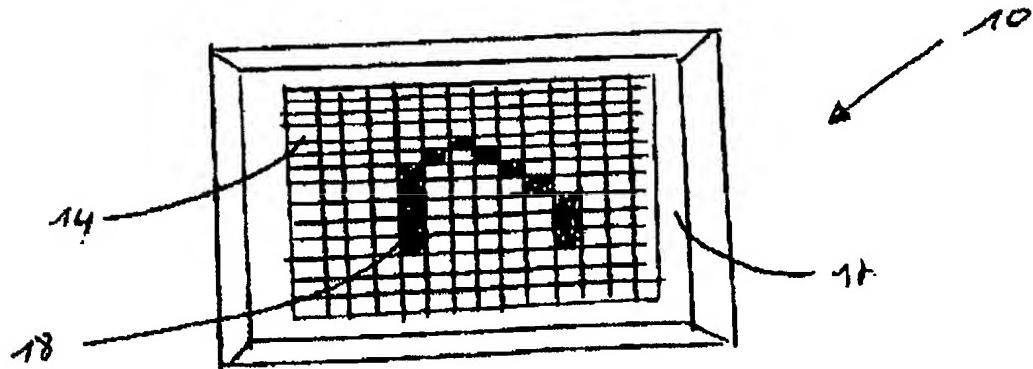


FIG 1c

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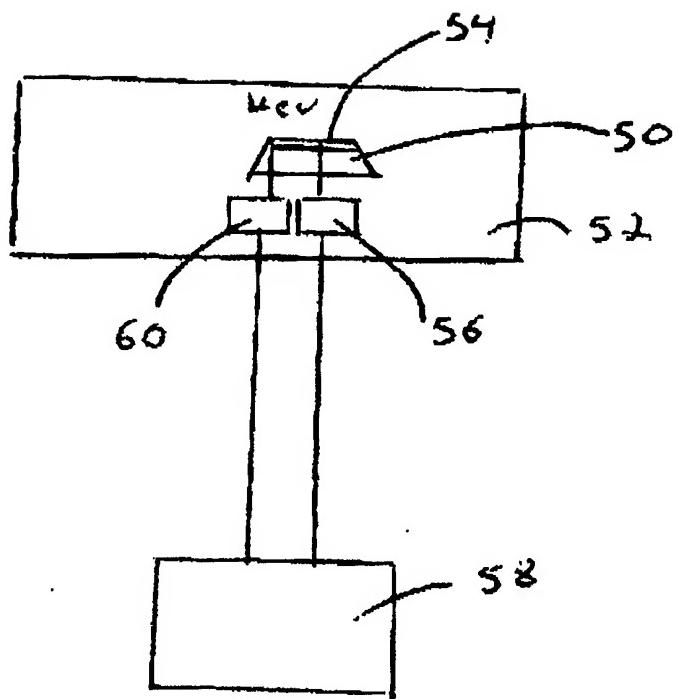


Fig 2

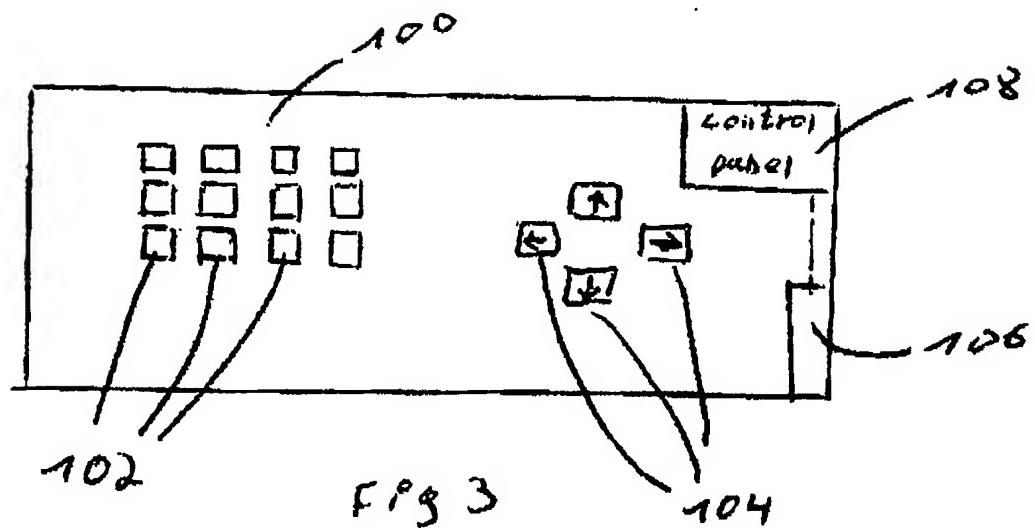


Fig 3

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